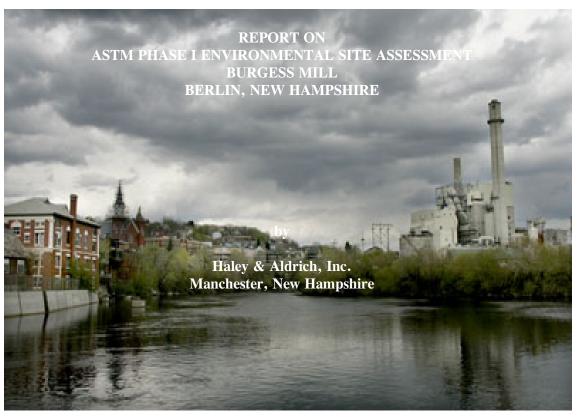
# DOCUMENT 5

# PHASE I ENVIRONMENTAL ASSESSMENT PREPARED BY HALEY & ALDRICH FOR NADC 2006



for

North American Dismantling Corporation Lapeer, Michigan

File No. 33794-000 September 2006

# REPORT ON ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT BURGESS MILL BERLIN, NEW HAMPSHIRE

by

Haley & Aldrich, Inc. Manchester, New Hampshire

for

North American Dismantling Corporation Lapeer, Michigan

File No. 33794-000 September 2006

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18 September 2006 File No. 33793-000

North American Dismantling Corporation 380 Lake Nepessing Road P.O. Box 370 Lapeer, Michigan 48446

Attention: Mr. Rick Marcicki

Subject: ASTM Phase I Environmental Site Assessment

Burgess Mill

Berlin, New Hampshire

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Tucson Arizona Ladies and Gentlemen:

This report presents the results of an ASTM Phase I Environmental Site Assessment (Phase I) conducted by Haley & Aldrich, Inc. at the above referenced property. This Assessment was performed in accordance with our proposal to North American Dismantling Corporation dated 5 September 2006 ("Agreement") as authorized by North American Dismantling Corporation (NADC) on 5 September 2006. As indicated in our proposal, this Phase I was conducted using practices consistent with the ASTM E 1527-00 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

The goal of this Phase I assessment was to evaluate site history, existing observable conditions, current site use, and current and former uses of surrounding properties to identify the potential presence of "Recognized Environmental Conditions (RECs)" at the site, as defined in the ASTM E 1527-00 Standard. Our conclusions regarding the presence and potential impact of RECs on the subject site are intended to help the user evaluate the "business environmental risk" associated with the site, as defined in the ASTM E 1527-00 Standard and discussed in the Introduction section of this report.

Thank you for the opportunity to perform these services for you. Please do not hesitate to contact us at 603.625.5353 if you wish to discuss any aspect of this report.

Sincerely yours,

HALEY & ALDRICH, INC.

W. James Griswold, CPG Senior Hydrogeologist Muriel S. Robinette, P.G. Senior Vice President

**Enclosures** 

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Washington
District of Columbia

#### **EXECUTIVE SUMMARY**

Haley & Aldrich, Inc. (Haley & Aldrich) has performed a Phase I Environmental Site Assessment of the subject property in the City of Berlin, New Hampshire. The scope of work is described and conditioned by our proposal dated 5 September 2006. As indicated in our proposal, this Phase I was performed in conformance with the scope and limitations of the ASTM E 1527-00 Standard. Exceptions to, or deletions from, this practice are described in Section I of this report. Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the site, as defined in the ASTM E 1527-00 Standard and discussed in the Introduction section of this report.

The subject property described herein is defined as the Berlin or Burgess Mill property, but excludes the Cell Plant site (the former Chlor-Alkali Facility), the wastewater treatment plant, the service garage, and former portions of the mill site located on the west side of the Androscoggin River. The subject property occupies approximately 110 acres and is located in Berlin, New Hampshire. The property is currently owned by Fraser Paper, Inc. (Fraser) and was formerly used for manufacturing of wood pulp for use in paper processing. Pulping activities were discontinued in May 2006.

A comprehensive Phase I environmental site assessment was conducted for the property transfer to Fraser in May 2002. This document (Haley & Aldrich, Inc., 2002) served as a baseline for Recognized Environmental Conditions prior to May 2002.

It is our understanding that North American Dismantling Corporation (NADC) intends to acquire and raze all existing structures at the subject property.

#### RECOGNIZED ENVIRONMENTAL CONDITIONS

The goal of the ASTM E 1527-00 Standard practice is to identify Recognized Environmental Conditions (RECs), as defined in the Standard and in Section I of this report.

This assessment has revealed evidence of four (4) recognized environmental conditions currently in connection with the property, which likely post-dated May 2002, as discussed below (Figure 3).

The ASTM E 1527-00 Standard requires an opinion of the potential impacts of REC(s) identified on a site during a Phase I. Our opinion is rendered with respect to a REC's potential (high, medium, or low) to require remedial response based on prevailing agency requirements and on our understanding of North American Dismantling Corporation's intended use for this property. Our opinion is limited by the conditions prevailing at the time our work was performed and by the applicable regulatory requirements in effect.

**REC** #1: Oil Staining Throughout Subject Property

**Potential Impact:** Low

**Explanation:** Numerous areas of oily stains were observed on interior concrete floor slabs during the site visit. The staining was predominantly observed in areas of machinery, aboveground storage tanks, and drums. Although the staining was observed on concrete, many of the concrete surfaces contained cracks, holes, and other breaches that could lead to subsurface soil and/or groundwater. Although many of the stained areas appear to pre-date May 2002, it is possible that some of these stained areas occurred during occupancy by Fraser.



REC #2: Solid Waste Dumping

**Potential Impact:** Low

**Explanation:** Several areas containing solid waste (scrap metal, used railroad ties, abandoned equipment and empty steel drums) were observed around the North Yard area. Although no obvious areas of impact (staining, stressed vegetation) were observed during the site visit, there is the potential that soil and/or groundwater has been impacted by this solid waste dumping.

**REC #3:** Floor Drain Systems **Potential Impact:** Medium

Explanation: According to the 2002 Haley & Aldrich ESA prepared for the subject property, floor drains located throughout the facility are constructed of non-coated concrete that were connected to the facility's wastewater treatment plant (WWTP) in 1976. These drains potentially received releases of oil and/or hazardous materials utilized in site buildings. Deterioration of the wastewater collection system was reportedly documented by a video survey of some or all of the collection system during a study commissioned by the former site operator. No failures of the collection system were reported by site contacts, but the results of the video survey were not readily available for review. No piping diagrams or inspection records were reviewed for this assessment. Although not observed, reported, or alleged, there is the potential that a degraded floor drain system could have acted as a conduit for the possible point source release of oil and hazardous materials (OHM) to soil or groundwater.

**REC #4:** Railroad Repair Shop

Potential Impact: High

Explanation: The railroad repair shop has a combination concrete floor slab and dirt floor. Hazardous materials and petroleum products used and stored in the building included hydraulic and lubricating oils, caustic liquid for equipment steam-cleaning and a self-contained ("Safety-Kleen") parts washer. The concrete portion of the repair building has a concrete lined repair pit with piping that appears similar to a fill port for an underground storage tank (UST). It is possible that a UST is located beneath the concrete floor that was formerly used to store waste oil from railcars being repaired. Staining was observed on the concrete floor of the repair building as well as in the pit. Several holes in the concrete floor were also observed. Further inspection of the one of the holes indicated that it extended approximately 4 feet below the surface of the repair garage and contained approximately 6 inches of a thick, oily substance. The surface soil on the unpaved portion of the repair building was also noted to be heavily stained with oil.

In 2003, under contract to the New Hampshire Department of Environmental Services (NHDES), GZA GeoEnvironmental, Inc. (GZA) performed a Phase II hydrogeologic investigation of the property. As part of this Phase II, GZA installed 5 soil borings on the exterior of the repair building, each of which was converted to a monitoring well. Soil and groundwater samples collected indicated concentrations of polyaromatic hydrocarbons (PAH) in soil and PAHs and arsenic in groundwater that exceeded State regulatory standards for soil and groundwater (NHS-1 and AGQS).

Haley & Aldrich also observed what appeared to be a UST fill port on the northwest corner of the repair building.



#### **REC #5:**

Potential Impact: High

**Explanation:** Groundwater analytical results from 2003 obtained during a Phase II assessment of the subject property by GZA GeoEnvironmental, Inc. indicate PAHs are the most widely distributed contaminant of concern in shallow site groundwater. The most significantly PAH-impacted groundwater was determined to be in the areas of the Railroad Repair Shop, 500,000 gallon No. 6 Fuel Oil AST, and weak liquor storage area. Chlorinated VOCs were also detected in groundwater samples collected from an area just south of the Riverside Mill Building. Arsenic (As, at four locations) and lead (Pb, at one location) were also detected in site groundwater samples at concentrations greater than risk screening criteria. Although the identified groundwater contamination is likely indicative of historic releases, it is possible that Fraser's continued operation of the pulp mill from 2003 to 2006 has contributed to this groundwater contamination.

#### HISTORICAL RECS AND KNOWN OR SUSPECT ENVIRONMENTAL CONDITIONS

The ASTM E 1527-00 Standard also requires that historical RECs (HRECs) and other known or suspect environmental conditions (KECs and SECs, respectively), as defined in the Standard and in Section I of this report, are identified in the Phase I. The standard defines HRECs as environmental conditions "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently." The term "known or suspect environmental condition" is not specifically defined in the standard, but is used by Haley & Aldrich to highlight environmentally-related information that is not anticipated to adversely affect the subject site and/or does not rise to the level of an REC. Haley & Aldrich identified nine HRECs in connection with the subject property (Figure 3).

HREC #1: Prior to installation of the process wastewater treatment plant in the 1970's, process waste throughout the subject property was reportedly discharged directly to the Androscoggin River. In the Riverside Mill Building, the floor drainage system was reportedly not connected to the WWTP system, and process liquid wastes were reportedly discharged directly to the ground or the Androscoggin River. There is the potential that soil and groundwater in the area of the Riverside Mill and sediment in the Androscoggin River have been impacted by these releases. Furthermore, review of preliminary analytical data provided by the NHDES indicates that the river has been a receptor for various constituents from the mill operations including, but not limited to, mercury, dioxin and PCBs. According to a Covenant Not to Sue (Covenant) among Fraser Paper, Inc., the State of New Hampshire, and the United States Environmental Protection Agency (USEPA), the State of New Hampshire and the USEPA have retained responsibility for all releases at the subject property that occurred prior to 30 May 2002. As a result, potential impacts to soil, groundwater, and/or river sediment as a result of the process wastewater discharges are not considered a concern to NADC.

**HREC #2:** Spill reports available at NHDES indicate that reportable spills at the site have occurred since 1974 including the following:

■ 11,000 gallons of No. 6 oil was released to railroad tracks area near the Engineering Building on 23 December 1986. Remediation was conducted by placement of sawdust. The oil and sawdust were then excavated and reportedly burned in the facility's boiler system.



- Between 600 and 1000 gallons of No. 6 oil was released in the center of the Mill Yard on 10 January 1987. Visually impacted soil was excavated and was reportedly burned in the facility's boiler system.
- 5,000 gallons of No. 6 oil was released to the Androscoggin River on 27 October 1993.
- 210 gallons No. 6 oil was released from an underground pipe on 22 October 2004 in the central portion of the subject property. The soil was reportedly excavated, mixed with wood chips and transported to Mt. Carberry landfill. The spill case was subsequently closed by NHDES.

As a result of the Covenant, potential impacts to soil, groundwater, and/or river sediment as a result of the 1986, 1987, and 1993 releases are not considered a concern to NADC. With regard to the 2004 release, the case was closed by the NHDES and as a result, does not represent a REC or HREC.

HREC #3: Review of a preliminary site map in the NHDES files indicated that PCB soil remediation had taken place in the center of the North Yard area. Documentation of cleanup results was available in a 27 October 1987 James River Corporation Interoffice communication from Dave Edelman to Ray Danforth, indicating that confirmatory samples containing concentrations of the PCB Aroclor 1260 were detected in soil at concentrations ranging from 0.4 to 2.2 parts per million (ppm). A soil sample collected in the vicinity in 1999 had a PCB concentration of 16.0 mg/kg (Tighe & Bond, 29 Nov. 1999). Although there is a potential that elevated levels of PCBs remain, this is not considered a concern to NADC as a result of the Covenant.

HREC #4: A 1996 report by Sevee & Maher Engineers, Inc. documented more than 200 potentially unpermitted discharge locations to the Androscoggin River. Many of these discharge points were reported as likely groundwater discharge points, however many of them were reportedly discharges from unknown sources. Discussions with Tammie Lavoie of Fraser indicated that each of these potentially unpermitted discharge locations was addressed either by closure, or determination that the discharge was originating from an off-site source. Given that the State of New Hampshire and the USEPA retained responsibility for river sediments under the Covenant, this is not considered a concern to NADC.

**HREC** #5: The main parking lot near No. 2 Bleachery Building reportedly is underlain by ash from historical coal-fired boilers. Since the placement of this fill occurred prior to Fraser's operation of the subject property, response action that may be required as a result of the ash would be the responsibility of the State of New Hampshire or the USEPA.

HREC #6: Nine UST tank closures were conducted in the 1990's. Closure documents indicate only minor impacts to soil and groundwater, with impacted soil being removed to Mt. Carberry Landfill. One gasoline UST removed in 1990 was apparently located in the Service Garage Area (formerly part of the subject property). During UST closure, impacted soil was removed, and in a letter to NHDES, James River Corporation requested assistance in determination of remedial measures, however additional documentation was not available. Multiple petroleum USTs are listed as having been closed in the 1980's by UST inventories provided by Fraser personnel. Records for these older closures were not available. Since closure of former USTs at the subject property occurred prior to May 2002, response action that may be required as a result of former USTs would be the responsibility of the State of New Hampshire or the USEPA.



**HREC** #7: Historical mill development included demolition of numerous buildings, including the Cell House, Floc Plant and Bermeco mill, over areas totaling several acres. It is reported that the majority of the demolition debris was backfilled into foundation holes. The nature of the demolition debris is unknown, but is reported to likely constitute solid waste and asbestos. Since these activities occurred prior to May 2002, response action that may be required as a result of these actions would be the responsibility of the State of New Hampshire or the USEPA.

**HREC** #8: The Cell House site (the former Chlor-Alkali Facility) is located to the north of the subject property and is characterized by elevated concentrations of lead, free-phase mercury, and detectable concentrations of volatile organic compounds (VOCs). Response actions being conducted at this Superfund site are the responsibility of the USEPA. The presence of mercury in the subsurface of this adjacent property could impact the site due to the possibility of groundwater, surface water, or free-phase migration onto the site. Discharge to the river was observed in the vicinity of a swale assumed to be the southwestern extent of the Cell House grout curtain. Given that the USEPA is responsible for response actions, the Cell House site is not considered a concern to NADC.

HREC #9: The Dummer Yard landfill and service garage are located adjacent and northeast of the subject property. Past disposal of materials in the landfill and former use of oil and hazardous materials at the service garage may have resulted in impacted to subsurface soil and/or groundwater at the subject property. Since both of these sites are located upgradient of the subject property and, as a result, present a potential concern for migration of contaminants onto the subject property. Portions of the subject property are expected to be included in the Groundwater Management Zone for the Dummer Yard Landfill. Given that NADC will not be acquiring the service garage, and the landfill is the responsibility of the State of New Hampshire and the USEPA, neither site is considered a concern to NADC. Portions of the subject property will likely become part of a regulated zone by others.

**HREC** #10: While observed reports indicate that remediation of PCB-impacted soil has occurred at the T-1 Transformer Area, PCB-impacted soil and groundwater contamination in bedrock and overburden are reported to be present. It is our understanding that the T-1 Transformer Area is currently being addressed by State of New Hampshire and, as a result, is not a concern to NADC.

# OTHER KEY FINDINGS

A limited asbestos survey was conducted as part of this work effort by RPF Associates, Inc. of Northwood, New Hampshire under contract to Haley & Aldrich. Based on existing survey results, preliminary visual observations made in September 2006, and asbestos test results for limited bulk material samples collected by RPF in September 2006, asbestos-containing building materials (ACBM) are present throughout the majority of the buildings and exterior mechanical systems at the site.

#### **SUMMARY**

In summary, based on the results of this assessment, we have identified five (5) Recognized Environmental Conditions associated with the subject site. Two are considered low risk, one medium and two high.

The remainder of this report contains additional information regarding the Phase I assessment, the resulting findings, and limitations affecting this report.



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2	Vicinity Map
3	Site Plan with RECs and HRECs



#### I. INTRODUCTION

# 1.1 Purpose

This Phase I was performed by Haley & Aldrich, Inc. (Haley & Aldrich) in conformance with the scope and limitations of the ASTM E 1527-00 Standard. The purpose of this assessment was to evaluate site history, existing observable conditions, current site use, and current and historic uses of surrounding properties to identify the potential presence of Recognized Environmental Conditions (RECs) in connection with the subject site. RECs are defined by ASTM as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on a property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions."

In addition, the Standard requires that historical RECs (HRECs) and known or suspect environmental conditions be identified in the Phase I report. The standard defines historical RECs as environmental conditions "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently." The term "known or suspect environmental condition" is not specifically defined in the standard, but is used by Haley & Aldrich to highlight environmentally-related information that is not anticipated to adversely affect the subject site and/or does not rise to the level of an REC.

Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the site, defined by ASTM as "a risk which can have a material environmental or environmentally-driven financial impact on the business associated with the current or planned use of a parcel of commercial real estate. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations."

## 1.2 Site Identification

The Burgess Mill is located near the intersection of on Unity Street and Coos Street in the City of Berlin, New Hampshire. The property is currently owned by Fraser Paper, Inc, and occupies approximately 110 acres of land along the Androscoggin River. The areas included in this assessment were limited to buildings and land on the eastern side of the Androscoggin River, including the railroad repair shop, chipping/debarking building, Riverside Mill, filter plant, pulp dryers/storage, bleachery, Kraft digester / thickener building, limn kiln, and cogeneration plant. In addition, the railroad bridge and the pipeline bridge were included in this assessment. The site is located in Berlin, New Hampshire as shown on the Project Locus, Figure 1.



# 1.3 Detailed Scope of Services

Haley & Aldrich performed the following scope of services to complete the Phase I assessment:

- 1. Visual observations of site conditions, and of abutting property use, to evaluate the nature and type of activities that have been or are being conducted at and adjacent to the site, in terms of the potential for release or threat of release of hazardous substances or petroleum products.
- 2. Interview with the Key Site Manager.
- 3. Review of federal and state environmental database information within the ASTM-specified radii from the subject property using a database service to access records. Use of 7.5-minute topographic maps to evaluate the site's physical setting.
- 4. Review of state environmental files pertaining to the subject property and nearby sites with the potential to impact the subject property.
- 5. Review of the following sources of historical use information: Sanborn Maps, historical topographic maps, and information obtained by Haley & Aldrich in 2002.
- 6. Contacts with local municipal agencies regarding the site and surrounding properties and structures.
- 7. Interpretation of information and data assembled as a result of the above work tasks, and formulation of conclusions regarding the potential presence and impact of Recognized Environmental Conditions (RECs) as defined by the ASTM E 1527-00 Standard.

#### 1.4 Non-Scope Considerations

The ASTM E 1527-00 Standard includes the following list of "additional issues" that are non-scope considerations outside of the scope of the ASTM Phase I practice: Asbestos-Containing Materials, Radon, Lead-Based Paint, Lead in Drinking Water, Wetlands, Regulatory Compliance, Cultural and Historic Risks, Industrial Hygiene, Health and Safety, Ecological Resources, Endangered Species, Indoor Air Quality, and High Voltage Powerlines. With the exception of an asbestos survey, these items were not included in our assessment of the property. Haley & Aldrich retained RPF Associates, Inc. to perform a limited asbestos survey of the subject property. In addition, an assessment for the presence of mold or other biological pollutants is not included in this Phase I.

A limited assessment of the presence of PCBs is included in the ASTM work scope. Accordingly, our assessment of the presence of PCBs is limited to those potential sources specified in the ASTM Standard as "electrical or hydraulic equipment known or likely to contain PCBs...to the extent visually and or physically observed or identified from the interview or records review."



#### 1.5 Exceptions and Deviations

# A. Exceptions

Haley & Aldrich has completed this assessment in substantial conformance with ASTM E 1527-00. In our opinion, there were no exceptions made to the ASTM work scope.

#### B. Deviations

Haley & Aldrich completed this assessment in substantial conformance with the ASTM E 1527-00 Standard. In our opinion there were no additions made to or deviations and deletions made from the ASTM work scope in completing this Phase I other than the asbestos survey by RPF associates.

#### 1.6 Limitations

Our work for the Phase I portion of this project was performed generally consistent with the ASTM E 1527-00 Standard for Phase I Environmental Site Assessments. Several organizations other than ASTM, such as professional associations (e.g. ASFE and AGWSE) have also developed "guidelines" or "standards" for environmental site assessments. The Phase I presented herein is consistent with the ASTM E 1527-00 Standard, which may vary from the specific "guidelines" or "standards" required by other organizations.

This Report was prepared pursuant to an Agreement dated 5 September 2006 between North American Dismantling Corporation and Haley & Aldrich, which Agreement is attached hereto and is made a part of this Report (Appendix A). All uses of this Report are subject to, and deemed acceptance of, the conditions and restrictions contained in the Agreement. The observations and conclusions described in this Report are based solely on the Scope of Services provided pursuant to the Agreement. Haley & Aldrich has not performed any additional observations, investigations, studies or other testing for this Phase I not specified in the Agreement. Haley & Aldrich shall not be liable for the existence of any condition the discovery of which would have required the performance of services not authorized under the Agreement.

This Report is prepared for the exclusive use of North American Dismantling Corporation in connection with the potential acquisition of the subject property. There are no intended beneficiaries other than North American Dismantling Corporation Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreement or the Report. Use of this Report by any person or entity other than North American Dismantling Corporation for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from North American Dismantling Corporation and from Haley & Aldrich. Use of this Report by such other person or entity without the written authorization of North American Dismantling Corporation and Haley & Aldrich shall be at such other person's or entity's sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this Report by any person or entity, including by North American Dismantling Corporation, for a purpose other than for the potential acquisition of the subject property is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the Report is adequate for such other use. Use of this Report by any person or entity for such other purpose without written authorization by Haley & Aldrich shall



be at such person's or entity's sole risk and shall be without legal exposure or liability to Haley & Aldrich.

This report reflects site conditions observed and described by records available to Haley & Aldrich as of the date of report preparation. The passage of time may result in significant changes in site conditions, technology, or economic conditions, which could alter the findings and/or recommendations of the report. Accordingly, North American Dismantling Corporation and any other party to whom the report is provided recognize and agree that Haley & Aldrich shall bear no liability for deviations from observed conditions or available records after the time of report preparation.

Use of this Report by any person or entity in violation of the restrictions expressed in this Report shall be deemed and accepted by the user as conclusive evidence that such use and the reliance placed on this Report, or any portions thereof, is unreasonable, and that the user accepts full and exclusive responsibility and liability for any losses, damages or other liability which may result.



#### II. SITE DESCRIPTION

#### 2.1 Site Ownership and Location

#### A. Name of Site Owner

Fraser Paper, Inc. P.O. Box 1005 70 Seaview Avenue Stamford, Connecticut 06904

# **B.** Name of Site Operator

Fraser-NH, LLC 650 Main Street Berlin, New Hampshire 03570

# C. Site Locus Map

The USGS topographic map for the site is the Gorham Quadrangle, dated 1995 (Figure 1). The USGS topographic map was used as the source for site setting information. The site is located in Coos County.

#### 2.2 Site and Vicinity Description

- The Burgess Mill site, evaluated for this ESA, is approximately 110 acres in size. The Burgess Plant ceased operations at the site in May 2006. No manufacturing activities are currently being conducted at the site. Figure 2 is an aerial photograph of the former mill site and its vicinity. Figure 3 is a Site Plan of the subject properties, including relevant site and immediately adjoining property features.
- The subject property is comprised of a multi-building complex that consists of more than 50 buildings including areas dedicated to debarking and chipping operations, water filtration plant, Kraft digesters and thickener units, dryers, lime kiln, concentration/recovery boilers, and a bleachery. A secondary mill located along the Androscoggin River (known as the "Riverside Mill"), was historically operated as a pulp mill, but was most recently used for power boilers and water treatment facilities. A co-generation plant, which was constructed in 2004, is also located at the site. Additional support structures include several machine shops, vehicle and railcar repair facilities, offices and QA/QC laboratories. Overall, the facility buildings collectively represent more than 1,000,000 square feet under roof, including office buildings and storage buildings/trailers.
- Exterior areas of the site include former unloading areas for wood; storage areas for equipment; parking areas; and, bulk storage areas for oil and chemicals. A second, undeveloped parcel of woodlands is located just to the south of the mill area.



- Historically, the site buildings were heated primarily from steam generated from the recovery boilers. Additional heating was historically supplied by suspended natural propane heaters and electric baseboard units. Currently, most of the site is not heated.
- The site is served by the Berlin municipal water supply for potable water. Process wastewater is conveyed via trench drains to the site's Wastewater Treatment Plant, located approximately one mile south of the site. Sanitary wastes from toilets and sinks are conveyed to the municipal sanitary sewer line.
- The area in the vicinity of the subject properties is generally characterized as urban industrial, commercial and residential.
- The mill site is bordered to the west and northwest by the Androscoggin River, beyond which are additional mill buildings formerly part of the subject property (#6 fuel oil tank, administrative buildings); to the south by Coos Street, Hutchins Street, a city park, residential properties, and Steve's Electronics (home-based electronics repair); to the east by Hutchins Street beyond which is a service garage (formerly part of the subject property) and Dummer Yard Landfill; and to the northeast by the residential properties and the Dummer Yard Landfill.

# 2.3 Physical Setting

# A. Topography

Topographically, the Burgess Mill site is relatively level and at an elevation of approximately 1,081 feet MSL.

# **B.** Geologic Information

A review of the Bedrock Geology Map and Surficial Geology Map for the area indicated that the site vicinity is underlain by glacial till overburden deposits. The uppermost bedrock unit is mapped as biotite granite, a member of Late Ordivician Oliverian Plutonic Suite. The rock is described as a pink, variably metamorphosed biotite granite/gneiss.

# C. Ground Water and Surface Water Information

Based on surface topography, surface water at the site appears to flow west-northwest. Also based on topography, regional groundwater flow is anticipated to be to the west, generally towards the Androscoggin River, located west of the Burgess Mill site. In 2004 GZA conducted a Phase II investigation at the site which included the installation of groundwater wells. GZA determined that groundwater flow in the vicinity of the Burgess Mill was towards the west, consistent with the Androscoggin River flow direction. Hydrogeologic investigations were not performed on the site for this investigation; therefore, it is unknown to what extent localized variations in groundwater presence and flow occur on the site.

A FEMA Flood Insurance Rate Map, dated 15 June 1982, indicates that a small portion of the western edge of the site is located within flood zone A4, defined as



areas of 100-year flood with base flood elevations and flood hazard factors determined. The majority of the subject property lies within a zone of minimal flooding.

The site is serviced by the municipal water supply system of the City of Berlin. The nearest drinking water source that appears to be present in this area is a domestic water supply well, USGS Well No. 442754071095401, located approximately 0.5 mile southeast and upgradient of the subject site. The Berlin Water Works indicated that the site is not located within a local Aquifer Protection District.



#### III. PREVIOUS REPORTS

An ASTM Phase I Environmental Site Assessment (ESA) for the Pulp and Paper of America Burgess Mill in Berlin, New Hampshire was completed by Haley & Aldrich in February 2002. In addition to the 2002 ESA by Haley & Aldrich, a report of a Phase II hydrogeologic Investigation of the Burgess Mill property prepared by GZA for the NHDES in December 2003, was reviewed for subsurface information on environmental conditions at the subject property. Copies of the GZA report and Haley & Aldrich ESA are provided in Appendix C.

Other reports and documents that were reviewed for the subject property or for sites with a potential to impact the subject property are referenced as appropriate in following sections of this report. A summary of the Haley & Aldrich 2002 ESA for the Burgess Mill and the 2003 GZA Hydrogeologic Investigation pertaining to the subject property is provided below.

■ ASTM Phase I Environmental Site Assessment, Pulp and Paper of America, Berlin, New Hampshire, prepared by Haley & Aldrich, Inc., dated February 2002

This report was prepared by Haley & Aldrich in 2002 for Fraser Paper, Inc. The scope of work included an evaluation of site history, existing observable conditions, current site use, and current and former use of surrounding properties in order to identify Recognized Environmental Conditions (RECs). Haley & Aldrich identified 29 RECs as follows: five Historical RECs (HRECs), twelve Low Risk RECs, five Medium Risk RECs, four High Risk RECs, and three Off-Site RECs. The High Risk RECs are as follows:

- 1. Contamination of the Androscoggin River downstream from the Sawmill Dam with mercury, dioxin, and PCBs resulting from operations at the mill. Concentrations of mercury exceed risk-based standards.
- 2. Floor drains throughout the property are constructed of non-coated concrete and were connected to the site wastewater treatment plant in 1976. These drains potentially received any releases of liquid hazardous materials or petroleum products that occurred within the buildings at the subject site. Deteriorated concrete was observed in areas of corrosive chemical use and deterioration of the wastewater collection system has been documented.
- 3. Historical development at the site involved demolition of numerous buildings, including the Cell House, Floc Plant, and Bermico Mill, over several acres of land. Demolition debris was reportedly backfilled into foundations. The nature of the demolition debris is unknown but reportedly contains solid waste and asbestos.
- 4. PCB contamination in bedrock and overburden reportedly persist in the T-1 Transformer Area despite remediation efforts.
- Phase II Hydrogeologic Investigation, Burgess Pulp Mill and Cascade Paper Mill, Berlin and Gorham, New Hampshire, prepared by GZA GeoEnvironmental, Inc., dated 31 December 2003.

This report was prepared by GZA GeoEnvironmental, Inc. (GZA) in December 2003 for the NHDES. The scope of work included review of background information and preparation of base maps for the mill sites, performance of subsurface explorations, hydrogeologic evaluations, water and soil sampling and analysis, development of site



conceptual models based on the results of the investigations, and preparation of the technical summary report. The stated purpose for GZA's work was to 'render an opinion" regarding the "presence of hazardous materials within the soil and shallow groundwater" at the mill sites. For the purpose of this document, the following summary of information contained in the 2003 GZA Report is limited to the Burgess Mill site.

GZA performed subsurface exploration, sampling and analysis to investigate subsurface conditions at the Burgess Mill site to evaluate conditions of soil and groundwater quality. Potential areas of environmental concern identified by previous work completed at the site that were targeted for investigation by GZA included: a former UST location adjacent to the Scale House; the railroad repair shop (5 borings performed), the No.6 Oil Bulk Storage Area, and the No.6 Oil AST Area (3 boring performed). In all, GZA completed 27 soil borings with monitoring well installations and 22 hand auger probes at the Burgess Mill site in October 2003. Soil sampling during drilling was conducted at standard five-foot sampling intervals, and based on screening results, soil samples were submitted for analysis for volatile organic compounds (VOCs, 23 samples); polycyclic aromatic hydrocarbons (PAHs, 25 samples), RCRA-8 metals (3 samples), and Diesel Range Organics (DRO; 4 samples). One round of groundwater quality sampling was conducted with all monitoring wells sampled for VOCs (27 well locations), 12 wells sampled for PAHs, 14 wells sampled for RCRA-8 metals, and six (6) wells sampled for sulfate. Field water quality measurements made during groundwater sampling included pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and temperature.

Based on the limited analytical results for soils and groundwater sampled at the Burgess Mill by GZA in 2003, PAHs are indicated as the most widespread contaminant of concern in soils and groundwater. Concentrations of PAHs exceed risk characterization screening levels for shallow soils (NH S-1 Soil Criteria) at four locations of known or suspected environmental concerns including the Railroad Repair Shop, the former Bermico Pipe Mill area, a former drum storage area, and a former petroleum spill area. In two of three soil samples tested for metals, the concentrations of mercury and arsenic exceeded their respective NH S-1 Soil Criteria for screening for conditions of risk. Consistent with the soil results, groundwater analytical results from 2003 indicate PAHs are the most widely distributed contaminant of concern in shallow site groundwater. PAHs were detected at 12 of 12 monitoring well locations sampled, and the concentrations of PAHs in groundwater exceeded risk characterization screening levels for groundwater in New Hampshire (NH GW-1 Criteria) at 7 of 12 locations sampled. Three (3) areas were identified in the GZA investigation as areas of potential risk from PAH-impacted groundwater:

- The area of the Railroad Repair Shop.
- The area of the 500,000 gallon No. 6 Fuel Oil AST.
- The Weak Liquor Storage Area.

The chlorinated VOCs 1,1,1-trichloroethane (111TCA) and 1,1-dichloroethene (11DCE) were detected at concentrations greater than their respective NH GW-1 risk screening criteria at one location, north of the Riverside Mill Building. Chlorinated VOCs were also detected in groundwater sampled just south of the Riverside Mill Building. Arsenic (As, at four locations) and lead (Pb, at one location) were also detected in site groundwater samples at concentrations greater than risk screening



criteria. Concentrations of As in site soils and groundwater may not or may not be elevated above naturally occurring levels.

Based on the limited data presented in the GZA report, the majority of VOCs and PAHs detected in soil and groundwater are petroleum-based hydrocarbons. Site contaminants detected appeared to be associated with the on-site storage, handling and use of petroleum products and process chemicals, and generally were detected at known areas of environmental concerns.

GZA made recommendations for confirmatory groundwater sampling, data gap evaluation, and additional hydrogeologic investigations.



#### IV. SITE HISTORY

# 4.1 Past Usage of the Site

Past usage of the site was assessed through a review of Sanborn maps, historical topographic maps, and previous reports. Copies of historical references reviewed are included in Appendix B.

The Riverside Mill, the original building constructed at the subject property, was built in 1891, at which point pulping and papermaking activities commenced at the site. Over the course of time, many buildings were razed and replaced with current structures. The first bleachery was constructed in 1947 and the second bleachery in 1966. The site was used for pulping operations until September 2001, when activity at the site ceased. In May 2002, the property was purchased by Fraser Papers and site operations resumed in 2003. In 2004, a Cogeneration facility was installed in the southwestern portion of the subject property. The pulp mill permanently closed in May 2006.

# A. Sanborn Maps

Sanborn maps for the site and vicinity dated 1887, 1892, 1895, 1905, 1909, 1914, 1920, 1928, 1950, and 1955 were reviewed. The maps depict the site as unoccupied between 1887 and 1895, however, the Forest Fibre Company and the Berlin Mills Company Pulp Mill/Berlin Falls Fibre Company are depicted on the west side of the Androscoggin River. In 1905, the map depicts the Riverside Paper Mill and Burgess Sulphite Fibre Company Chemical Plant on the eastern side of the river, with several bridges connecting to the Berlin Mills on the western bank. The 1920 and 1928 maps depict the site as the property of the Brown Company, with a sulfite plant, the Riverside plant, and a chemical plant. The 1950 and 1955 maps depict a slightly expanded sulphite plant. A lumber mill was located across from the pulp mill site since at least 1887.

#### B. Aerial Photographs

In 2002, Haley & Aldrich viewed aerial photographs from 1971 and 1989 at the subject site, which depicted the current building configuration and a large area of debris in what is now an open court-yard between the bleachery buildings. The 1989 photo shows this area as nearly cleaned of debris. A USGS photograph from 1999 shows the site as it appeared at the time of our recent site visit.

# C. Historical Topographic Maps

Historical topographic maps for the site dated 1893, 1937, 1942, 1970, 1989, and 1995 were reviewed. The 1893 map shows the subject property as undeveloped. The 1937, 1942, 1970, 1989, and 1995 maps show the mill located onsite, consistent with other records.



#### D. Historical Site Plans

In 2002, Haley & Aldrich reviewed site plans dated 1899, 1911, c. 1920, 1923, and 1925. The 1899 plan depicts oil tanks and boiler houses, which may have used coal and/or oil. The 1911 plan depicts a coal conveyor in the central portion of the site. The c.1920 plan depicts a tin shop in the same location as depicted on the Sanborn maps and a building marked "Leather" in the same vicinity. The 1923 plan depicts the location of drains to the Androscoggin River, including those from the bleachery and other chemical areas. The 1928 plan depicts sulfur and lime storage areas, a paint shop, and a lead smelter all located in the West Yard.

#### E. Historical Society and Library Records

In 2002, Haley & Aldrich reviewed records provided by the Northern Forest Heritage Park (Historical Society) and the Berlin Public Library, which provide dates for the construction of various buildings at the site:

**1891:** Riverside Mill

1897: Window Frame Mill

**1902:** Chemical Plant

1914: No. 1 Tube Mill

1917: Heine Boiler Plant

1918: No. 2 Tube Mill

#### 4.2 Past Usage of Adjoining Properties

Past usage of properties adjoining the site were assessed through a review of historical topographic maps and Sanborn maps.

#### A. Sanborn Maps

Sanborn maps for the site and vicinity dated 1887, 1892, 1895, 1905, 1909, 1914, 1920, 1928, 1950, and 1955 were reviewed. Since at least 1887, the western side of the Androscoggin River has been occupied by the Berlin Mill and the Forest Fibre Company; operations included a sawmill, grist mill, and papermaking activities. By 1895, the Berlin Mill had overtaken operations at the Forest Fibre Company and the operation on the west bank of the river is depicted as the Berlin Falls Fibre Company. By 1905, the Burgess Sulphite Fibre Co. Chemical Plant (formerly part of the subject property) is depicted north of the subject property. Railroad yards are depicted on both banks of the river, south of the sawmill on the western bank and the chemical plant on the eastern bank. Since 1905, the Sanborn maps have depicted several dwellings east of the subject property. Areas north, south, and east of the subject property are not depicted on the Sanborn maps; however, these properties likely consisted on residences to the north and south, and the Dummer Yard Landfill to the east.



# **B.** Historical Topographic Maps

Historical topographic maps for the site vicinity dated 1893, 1937, 1942, 1970, 1989, and 1995 were reviewed. The 1893 map depicts the site and vicinity as undeveloped. The 1937, 1942, and 1970 maps depict the site vicinity as developed similar to current conditions. The 1989 and 1995 maps indicate five mines located northeast of the site.



#### V. ENVIRONMENTAL RECORDS REVIEW

#### 5.1 Standard Environmental Records Review

Haley & Aldrich utilized the electronic database service by Environmental Data Resources, Inc. to complete the environmental records review. The database search was used to identify properties that may be listed in the referenced Agency records, located within the ASTM-specified search radii indicated below:

•	NPL sites:	1 mile
•	CERCLIS sites:	
•	CERCLIS NFRAP sites	Site and Adjoining
-	Federal ERNS:	Site only
-	RCRA non-CORRACTS TSD facilities:	0.5 mile
•	RCRA CORRACTS TSD facilities:	1 mile
•	RCRA Generators:	Site & Adjoining
-	State Hazardous Waste Sites:	1 mile
-	Registered Underground Storage Tanks:	Site & Adjoining
•	State Landfills and Solid Waste Disposal Sites:	0.5 mile
•	State Leaking Underground Storage Tanks:	

Following is a summary of information provided for each of the above-listed databases. The complete environmental database report is provided in Appendix C.

#### A. NPL Sites

The National Priorities List (NPL) is a list of contaminated sites that are considered the highest priority for clean-up by the US Environmental Protection Agency (USEPA).

- The subject site is not listed on the NPL List.
- The database search identified one NPL sites within a one-mile radius of the subject site.

Chlor-Alkali Facility (Former), Adjacent to Sawmill Dam (NPL ID NHN000103313, Map ID #36): This site is located north of the subject property, adjacent to the Sawmill Dam along the east side of the Androscoggin River and was formerly part of the Burgess Mill complex. It is known as the Cell House area and covers approximately 4.6 acres. A chloralkali plant operated at the site from the late 1800s through the 1960s when most of the structures at the site were razed and buried. As a result of these operations, residual wastes, including mercury, lead, arsenic, beryllium, atrazine, benzo(a)pyrene, dibenz(a,h)anthracene, chloroform, dichloromethane, dioxins, and furans, have been detected at significantly elevated levels in site soils, groundwater, and sediments in the adjacent river. Additionally, mercury has been seeping into the river from bedrock fractures.

Closure activities have been conducted at the site since 1999, when the last building was razed and buried. A slurry wall has been constructed along two sides of the property, an impermeable cap has been installed, and bedrock



cracks have been injected with grout. Despite these actions, mercury continues to seep into the river. Between 1999 and 2004, 135 pounds of mercury and mercury-contaminated sediments have been removed from the river. Despite removal actions, elemental mercury is still evident in bedrock fractures exposed in outcrops along the banks of the Androscoggin River adjacent to the site. Responsibility for the site was assumed by the USEPA in 2002.

This site was listed on the NPL in September 2005 and is not a federal facility. NHDES files for the subject site were reviewed by Haley & Aldrich for this ESA on 12 and 13 September 2006. Based on the *Site Investigation Report, Former Chlor-Alkali Facility, Below Saw Mill Dam* prepared by Weston Solutions, Inc. for the NHDES dated 11 February 2005, the Chlor-Alkali site is a continuing source of environmental contaminants of concern to local groundwater and the Androscoggin River adjacent to the site. Hydrogeological investigations indicate the Chlor-Alkali Facility (Former) NPL site does not pose a significant risk to the subject property located to the south.

#### B. CERCLIS Sites

The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) list identifies sites which are suspected to have contamination and require additional investigation to assess if they should be considered for inclusion on the NPL.

- The subject site is not listed on the CERCLIS List.
- The database search identified one CERCLIS site within a one-half mile radius of the subject site.

Chlor-Alkali Facility (Former), Adjacent to Sawmill Dam (CERCLIS ID 0103313, Map ID #36): (Refer to discussion above). This site was first assessed for CERCLIS status in October 2001.

#### C. CERCLIS-NFRAP Sites

CERCLIS-NFRAP status indicates that a site was once on the CERCLIS List but has No Further Response Actions Planned (NFRAP). Sites on the CERCLIS-NFRAP List were removed from the CERCLIS List in February 1995 because, after an initial investigation was performed, no contamination was found, contamination was removed quickly, or the contamination was not significant enough to warrant NPL status.

- The subject site is not listed on the CERCLIS-NFRAP List.
- The database search did not identify CERCLIS-NFRAP sites adjacent to the subject site.



#### D. Federal ERNS List

The Federal Emergency Response Notification System (ERNS) list tracks information on reported releases of oil and hazardous materials.

■ The subject site is not identified on the Federal ERNS list.

#### E. RCRA non-CORRACTS TSD Facilities

The Resource Conservation and Recovery Act (RCRA) non-CORRACTS TSD Facilities List tracks facilities which treat, store, or dispose of hazardous waste and are not associated with corrective action activity.

- The subject site is not listed as a RCRA non-CORRACTS TSD facility.
- The database search did not identify RCRA non-CORRACTS TSD facilities within a one-half mile radius of the subject property.

#### F. RCRA CORRACTS TSD Facilities

The RCRA CORRACTS TSD Facilities list catalogues facilities that treat, store, or dispose of hazardous waste and have been associated with corrective action activity.

- The subject site is not listed as a RCRA CORRACTS TSD facility.
- The database search did not identify RCRA CORRACTS TSD facilities within a one-mile radius of the subject property.

#### **G.** RCRA Generators

The RCRA Generator list is maintained by the USEPA to track facilities that generate hazardous waste.

■ The subject site is listed as a RCRA Hazardous Waste Generator.

Fraser NH LLC, Unity Street (Map ID #21): This site is located approximately one-quarter mile east of the subject property. Fraser NH LLC is listed as a Small Quantity Generator of Hazardous Wastes, indicating that the facility produces 100-1,000 kg of waste per month. The database report included violations, all of which Fraser NH LLC had complied with by August 1996. Waste manifests associated with the site list the following wastes: chromium, mercury, dimethyl amine, lead acid batteries, miscellaneous PCBs, petroleum oil, and general chemicals.

Properties adjoining the site are listed as RCRA Generators.

NHDES Former Chloro-Alkali Facility, 650 Main Street (NHD510177173): This site is located north of the subject property, adjacent to the Sawmill Dam along the east side of the Androscoggin River and was formerly part of the Burgess Mill complex. The site is listed as an Inactive Small Quantity Generator of waste mercury, Waste Code D009. However, review of



NHDES files indicated hazardous waste was manifest from the facility in August 2005 under an inactive or declassified EPA Hazardous Waste ID. We believe annual remedial activities to recover elemental mercury from the bank of the Androscoggin River will require, or may have already required, that this site reactivate its EPA hazardous waste generator ID. In the third quarter of 2005, the site manifested 150 pounds of waste mercury.

#### H. State Sites and ALLSITES

The State Sites and ALLSITES lists are maintained by the New Hampshire Department of Environmental Services in order to track sites where releases of oil or hazardous materials have occurred. The ALLSITES database refers to sites where activities have resulted in groundwater contamination or otherwise potentially pose a risk to groundwater supplies.

- The subject site is not listed as a State Site or as an ALLSITES.
- The database search identified five State Sites and twenty ALLSITES (some of which are also included on the State Sites list) within a one-mile radius of the subject site. Additionally, six ALLSITES were identified for which no map location is given (non-geocoded). Based on topography in the area of the subject property and reports by others, groundwater flow is assumed to be to the west, generally towards the Androscoggin River. Based on these assumed groundwater flow directions, distances relative to the subject property, area geology, and/or regulatory status, the following sites are anticipated to have the potential to affect the subject property.

Chlor-Alkali Facility (Crown Vantage), 650 Main Street (NHDES ID 199709046, Map ID # 42): This site is located north of the subject property, adjacent to the Sawmill Dam along the east side of the Androscoggin River. It is depicted as across the river from the Chlor-Alkali facility listed as a NPL and CERCLIS site. The Chlor-Alkali Facility was formerly part of the Burgess Mill complex but is not considered part of the subject property. The site is listed by the NHDES as a Superfund Site for elemental mercury DNAPL visible in bedrock fractures along the Androscoggin River. The site also has VOC and lead contamination. Additionally, a dark-colored tar-like material has been observed to have migrated to the site. The Chlor-Alkali facility is listed as having four spills, three of which are closed. The fourth occurred in September 1997 from a transformer; NHDES documents indicate it is still undergoing remediation.

Blanchette's Garage, Inc. 300 Coos Street (NHDES ID 198904028, Map ID #B10): This site is located approximately one-quarter mile southeast of the subject property. In June 1994, two 4,000-gallon USTs were removed from the site and petroleum contamination was discovered in the soil. Subsequent sampling at the site indicated the presence of VOCs and TPH in site soils and VOCs and MTBE in site groundwater. Information available from the NHDES indicates that response actions planned include soil excavation and installation of more groundwater monitoring wells.



T-1 Transformer Site, Adjacent to Burgess Mill: While previous reports indicate that remediation of PCB-impacted soil had occurred at the T-1 Transformer Area, PCB-impacted soil, and groundwater contamination in bedrock and overburden are reported to be present. Between June and September 2003, Sanborn, Head & Associates (SHA) completed a Supplemental Site Investigation (SSI) which included review of historical information, collection of groundwater samples from on-site monitoring wells, and completion of a soil boring and sampling program to asses the extent of PCB impact at the site. This investigation at the T-1 Transformer Area resulted in an agreement between NHDES, USEPA, Fraser Paper, Inc., and Sanborn, Head & Associates to reduce PCB concentrations in soil to 50 mg/kg or less. This concentration is to be used to target soils requiring excavation and removal. A 21 May 2004 addendum to the SSI, Further Assessment of PCB Impacted Soils involved the installation of seven (7) soil borings to further determine the extent of PCB impact across the site.

Four (4) unlabeled drums were observed outside the transformer area. One of the drums contained a small quantity of liquid, which appeared to be rainwater and snowmelt. The drums are not considered an REC.

# I. Registered Underground Storage Tanks (USTs)

The Department of Public Safety maintains a list of USTs registered with the Fire Marshal.

- According to the database report, the subject site is not listed on the registered UST list.
- There are no properties adjacent to the subject site listed on the registered UST list.

# J. State Landfills and Solid Waste Disposal Sites

■ The database search did not identify Solid Waste Disposal Sites within a one-half mile radius of the subject site.

# K. State Leaking Underground Storage Tanks

In New Hampshire, the ALLSITES list typically includes locations of Leaking Underground Storage Tanks (LUSTs). Of the six LUSTs identified by the database report, only two remain open. Refer to the discussion above concerning ALLSITES.

# 5.2 Additional Environmental Records Review

In conformance with ASTM, inquiry was made with representatives of the agencies described below and with the user of this Phase I. Copies of documents provided by these agencies are included in Appendix B.



#### A. Fire Department

Haley & Aldrich requested files from the Berlin Fire Department (BFD) and the Gorham Fire Department (GFD). According to Assistant Fire Chief Robert Goudreau of the BFD, at the request of the NHDES, all files pertaining to the subject property were sent to GZA Environmental in May 2003. Assistant Fire Chief Goudreau did not have any further information pertaining to the subject property.

The GFD provided Haley & Aldrich with Spill Prevention Countermeasure and Control (SPCC) plans for the subject property. The SPCC plans identify the location of hazardous materials located at the subject property. Although most of these materials have been removed from the subject property as of the time of our site visit, PCB-containing transformers remain. Copies of the site plans showing the location of these transformers are included in Appendix C.

# **B.** Health Department

Haley & Aldrich reviewed files at the Berlin Health Department on 13 September 2006. Records observed in Health Department files included documents pertaining to asbestos, air emissions, and spills/releases in portions of the Berlin Mill not included in this assessment (west side of river, wastewater treatment plant, Cell Plant, and service garage) as well as information similar to that discussed in Section C below.

#### C. New Hampshire Department of Environmental Services

NHDES Hazardous Waste Division files were reviewed on 12 and 13 September for the subject property and nearby sites with the potential to impact the subject site. Haley & Aldrich's file review was focused on, but not limited to documents that post-dated the 2002 ESA for the Burgess Mill (dated February 2002) and pertinent materials identified in the files that may not have been available for the 2002 ESA.

The results of the file reviews for state hazardous waste files with a potential to impact the subject property are summarized below.

Chlor-Alkali Facility (Former), Berlin, New Hampshire (DES #199709046): The Chlor-Alkali Facility is an approximately 4.6-acre property located adjacent to the Sawmill Dam along the east side of the Androscoggin River; it was formerly part of the Bugess Mill complex but is not considered part of the subject property. The site was listed on the National Priorities List (NPL) in September 2005, and is described in Section 4.1 A: NPL Sites, above. The Chlor-Alkali Facility (Former) site is a continuing source of environmental contaminants of concern to local groundwater and the Androscoggin River adjacent to the site. Contaminants of concern in groundwater detected at concentrations greater than risk-based standards in 2004 included tetrachloroethene, trichloroethene, vinyl chloride, naphthalene, dibenz(a,h)anthracene, arsenic, cadmium, chromium, lead, mercury, and selenium. Hydrogeological investigations indicate the NPL site does not pose a significant risk to the subject property located to the south. The inferred risk to the subject site is low.

Closed Dummer Yard Landfill Site, Berlin, New Hampshire (DES Site #198704035: The Dummer Yard Landfill encompasses approximately 105 acres of land used for the disposal of mill production related wastes from circa 1892 through 1995. The landfill



is described as having a western border with the Burgess Pulp Mill, placing the landfill immediately upgradient of the subject property to the east. The Dummer Landfill contains 5 specific disposal areas which were used for the disposal of wastewater treatment sludge, ash (bottom ash and fly ash), lime mud, general mill wastes and bark. The landfill was closed under an extended interim closure that consisted of a 20-inch thick soil cap (glacial till), gas venting systems, installation of one perimeter drain, and stormwater and erosion control measures. Impacts from the landfill to groundwater and surface water quality are monitored under the NHDES Groundwater Management Permits Program. Because of repeated violations of groundwater quality criteria for manganese in downgradient monitoring wells at the boundary of the site's Groundwater Management Zone (GMZ), the NHDES required an expansion of the GMZ (28 February 2006 site correspondence). The purpose of the GMZ expansion proposed is to extend the area of restricted groundwater use downgradient from the landfill to the Androscoggin River. This GMZ expansion would encompass approximately 20 homes and part of the subject property (Burgess Mill property). To the extent that use of impacted groundwater will be institutionally controlled by the deed recorded conditions of the GMZ, the inferred risk to the subject property is low.

Blanchette's Garage, 300 Coos Street, (DES #198904028): The Blanchette's Garage site is a LUST site located approximately 0.125 miles southeast (apparent upgradient) of the subject site. An August 2001 Site Investigation report prepared by Aries Engineering, Inc. of Concord, New Hampshire recommended groundwater monitoring with natural attenuation. A July 2006 Work Scope and Budget Estimate outlines plans to perform the excavation of approximately 100 tons of petroleum contaminated soils in the vicinity of a 3000-gallon gasoline storage tank. As a result of this work, monitoring well MW-2 will be replaced. The inferred risk to the Site is low.

Irving Oil Corporation, 9 Pleasant Street (DES #024-92041): The Irving Oil Corporation is a former UST facility located south to southwest of the subject site and appears to be downgradient. A 27 June 2001 Level II Site Investigation Addendum indicated that site soils contain polycyclic aromatic hydrocarbons (PAHs) at concentrations above NH S-1 standards. The report infers that the PAHs are due to the presence of "railroad coke" likely present in on-site fill. Evidence of free product petroleum was reported at two monitoring well locations during December 1999, April 2001 and June 2001. No PAHs or volatile organic compounds (VOCs) were detected in groundwater during an April 2001 sampling event. A September 2005 Underground Storage Tank Closure Assessment indicated the removal of one (1) 8000-gallon gasoline storage tank and one (1) 8000-gallon diesel storage tank. Soil samples were collected and analyzed for volatile organic compounds and PAHs. No compounds exceeded NHDES S-1 soil standards.

Norge Village Laundry / IGA Plaza, 19 Pleasant Street (DES #198910067): The Norge Village Laundry site is a State Hazardous Waste Site located southwest of the subject site. It appears to be in a down-gradient location. Groundwater monitoring is required due to concentrations of tetrachloroethene and trichloroethene slightly greater than AGQS. Groundwater monitoring was allowed by the State without the renewal of the Groundwater Management Permit. The inferred risk to the subject site is low.



#### D. User-Provided Information

The ASTM Standard requires disclosure in the Phase I report whether the user of the report has specialized knowledge about previous ownership or uses of the property that may be material to identifying RECs, or whether the user has determined that the property's Title contains environmental liens or other information related to environmental condition of the property, including engineering and institutional controls and Activity and Use Limitations, as defined by ASTM. In addition, we are required by the ASTM Standard to inquire whether the user of the report has prior knowledge that the price of the property has been reduced for environmentally-related reasons. As of this report preparation, Haley & Aldrich has not been informed by the user that there are liens or other information about the environmental condition of the property in the Title. In addition, the user has not indicated specialized knowledge about previous ownership or uses of the property that may be material to identifying RECs, and has not indicated that the price of the property has been reduced for environmentally-related reasons.

When Fraser Paper purchased the site in 2002, part of the arrangement made among Fraser, the State of New Hampshire and the USEPA involved assignment of environmental liability for the site to either the State of New Hampshire or USEPA. Two key documents pertaining to that arrangement were reviewed and are summarized below. Copies of the documents are found in Appendix C.

- Consent Agreement: The Consent Agreement pertains to prospective environmental compliance issues such as turbidity concerns, air permitting issues, above ground storage tanks and disposal/retrofit of certain PCB transformers. Deadlines for compliance are laid out, including a timeframe for an environmental audit by Fraser of the property during which time the State of New Hampshire agreed not to take enforcement action.
- Covenant Not To Sue: This agreement, dated 30 May 2002, transfers the environmental liability associated with existing conditions (as of 2002) on the site from Fraser to the State. In essence, the State of New Hampshire assumed all liability for the site from Fraser and its successors, including a subsequent owner of the site. Associated with the Covenant Not To Sue are two additional documents (Exhibits A and B):
  - Exhibit A: Agreement for the Treatment of Dummer Yard Leachate, in which Fraser will accept leachate from the Dummer Yard Landfill into its wastewater treatments plant; and,
  - Exhibit B: Agreement for Addressing PCB Contamination at the T-1
     Transformer Area, in which the State establishes a schedule and procedure for remediating the T-1 Transformer site.



# VI. SITE RECONNAISSANCE AND KEY PERSONNEL INTERVIEW(S)

A site visit to observe visible conditions was conducted by Peter Galoski and David Montplaisir of Haley & Aldrich, Inc. on 11-13 September 2006. Haley & Aldrich personnel observed the interiors of structures at the property. No weather-related conditions or other conditions that would limit our ability to observe the site occurred during our site reconnaissance.

An interview with Karl Ballenger and Dave Bishop as the Key Site Managers were conducted in conjunction with the site visit. The findings of the site visit are discussed below. Site photographs are included in Appendix D.

# 6.1 Current Use of the Property

No manufacturing is currently conducted at the site. According to facility personnel, the pulping operations were discontinued in May 2006. In brief, the facility formerly produced pulp from logs and wood chips that were brought to the site on trucks and railroad cars.

The wood chips were placed into digesters and pulped using caustic materials "white liquor" that were recycled through the system and replenished in the facility's lime kiln. At the end of the digestion process, the material is somewhat diluted and full of impurities from the wood "black liquor". The black liquor was sent to a recovery boiler, where the impurities were burned out of the material. Following this process, the material is known as "green liquor," was recharged with caustic lime to form the highly caustic white liquor. This was then placed back into the digestion process. The pulped material was bleached and dried/transported off site for additional processing as paper product.

#### **6.2** Site Visit Observations

#### A. General Description of Structures

The subject property is comprised of a multi-building complex that consists of more than 50 buildings including areas historically used in wood pulping operations. Buildings identified on-site included areas dedicated to debarking and chipping, water filtration, Kraft digestion and thickening, dryers, lime kiln, concentration/recovery boilers, and bleachery operations. A co-generation plant, which was constructed in 2004, is also located at the site. Additional support structures include machine shops, vehicle and railcar repair facilities, offices and QA/QC laboratories.

The majority of buildings that make up the site are turn of the 19<sup>th</sup> century, brick and wood construction. Additional structures, including the pulp dryers, Bleachery and co-generation plant, are concrete block and aluminum framing.

Sub-grade construction varies from full-basement foundations to slab-on-grade or dirt floors.

# B. Heating and Cooling System

Historically the site buildings were heated primarily from steam generated from the recovery boilers. Additional heating was historically supplied by suspended natural



propane heaters and electric baseboard units. Currently, the majority of the site is not heated or cooled.

# C. Potable Water Supply and Sewage Disposal System or Septic Systems

Potable water and sanitary waste water service is provided by the Town of Berlin municipal water and waste water system. Process waste water is treated at the former mill waste water treatment facility located approximately 1 mile south of the main Burgess Mill.

# D. Use and Storage of Petroleum Products and Hazardous Materials

As the subject facility consisted of a large historic operation, hundreds of different hazardous material types were typically utilized at any one time, making it difficult to provide a comprehensive listing for the purposes of this report. Materials used in the greatest quantities included caustic black liquor, caustic white liquor, chlorine dioxide, fuel oil, hydraulic oil, methanol, sodium chlorate, and sodium hydroxide (50,000 gallons). These oil and hazardous materials were typically stored in above ground storage tanks (ASTs) ranging in size from 6,700 gallon (CRU demi acid) to 1,100,000 gallon (caustic green liquor). According to the key site managers, oil and hazardous materials formerly located at the subject property have been shipped to other pulp and paper manufacturing facilities.

The facility historically operated a number of underground storage tanks (USTs). According to the facility personnel, all the USTs formerly used at the site have been removed. Products stored in the USTs included methanol, fuel oil, diesel fuel, and gasoline. All available UST closure documentation was provided in the 2002 Haley & Aldrich ESA. No new UST closure information was found in the State or municipal file review conducted for this ESA.

At the time of the Haley & Aldrich site visit, the bulk ASTs had been drained and cleaned by an outside contractor. Tanks were typically left with access hatches left open and labeled "out-of-service" to verify cleaning.

Small quantities of oil and hazardous materials observed on site were largely associated with former repair facilities and machine shop operations. Various types of lubricants, hydraulic oils, and degreasing stations were used in the pulp processing machines and machine shops throughout the plant. These lubricants and degreasers are generally stored in 30 to 55-gallon drums.

## E. Disposal of Petroleum Products and Hazardous Materials

Waste petroleum and hazardous materials are not currently generated at the site. The majority of hazardous materials were historically recycled into the site manufacturing process. Waste oils and lubricants were also burned in one of the site boilers. At the time of the Haley & Aldrich site visit, holes were observed in the floor of the railroad repair shop. Oily wastes were observed under the cement slab, and may have been historically used for the disposal of shop waste fluids.

The site is classified as a Small Quantity Generator (LQG) of hazardous wastes under the Resource Conservation Recovery Act (RCRA). Waste manifests associated with



the site list the following wastes: chromium, mercury, dimethyl amine, lead acid batteries, miscellaneous PCBs, petroleum oil, and general chemicals.

# F. Hydraulic Elevators

Based on the site visit conducted by Haley & Aldrich, no suspected hydraulic elevators were noted.

#### **G.** Vehicle Maintenance Lifts

No vehicle maintenance lifts were observed during the site walk-over.

# H. Emergency Generators and Sprinkler System Pumps

No emergency generators or sprinkler systems were identified on site.

# I. PCBs Associated with Electrical or Hydraulic Equipment

Approximately 22 PCB-containing transformers are listed as being present at the subject site. During the site visit, PCB Transformers were identified in both interior and exterior locations, including Substation #2, Riverside Mill, pulp dryer building, machine shop, Kraft mill, recovery boiler and lime kiln. At the time of the Haley & Aldrich site visit, identified PCB transformers were in good condition, with no evidence of release. Transformers at the subject property were noted to be labeled for PCB content.

Two known PCB releases have occurred at the site including the T-1 Transformer Substation and an area northeast of the railroad repair shop. The T-1 area has been characterized and partially remediated. Soil, rock, and groundwater in this area are reportedly impacted, and investigation of potential discharge points of PCB impacted groundwater to the Androscoggin River is pending. This site is not located within the current bounds of the subject property.

Based on the age of the site, the potential exists that older electrical and abandoned hydraulic equipment contains PCB fluids. Staining was observed throughout the site, and in proximity of electrical equipment and pumps.

# J. Floor Drains and Sumps

Wastewater generated at the subject facility was primarily produced from the pulp making processes. All interior drains in production areas reportedly lead to the wastewater treatment system which eventually discharges to the Androscoggin River. The site discharges are covered under a National Pollutant Discharge Elimination System (NPDES) permit.

Prior investigations reported that the drainage system at the Riverside mill was not connected to the process wastewater handling system, with local discharges to the ground or Androscoggin River. Based on the current discussions with facility personnel, although historic operations at the Riverside Mill historically discharged to the ground/river, it is likely that this area was connected to the wastewater treatment plant during the 1970's.



Deterioration of the wastewater collection system was reportedly documented by a video survey of some or all of the collection system during a study commissioned by the former site operator. No failures of the collection system were reported by site contacts, but the results of the video survey were not readily available for review. No piping diagrams or inspection records were reviewed for this assessment.

Oily residues were noted in proximity of several floor drains, which appeared to be emanating from nearby equipment and compressor blow-downs. The wastewater treatment plant is equipped to handle small quantities of oil in the wastewater stream.

#### K. Catch Basins

Discharges of stormwater from the facility are covered under the National Pollutant Discharge Elimination System (NPDES). This permit also covers the treated process and sanitary wastewater from the facility.

The facility maintains a large network of stormwater drains in the production areas. Any storm drains that are located in areas where there is the potential for stormwater to come into contact with oil and hazardous materials are directed to the facility's wastewater treatment facility. Areas included in the facility Stormwater Pollution Prevention Plan address the use of such materials as chlorine dioxide, sulfuric acid, methanol, solvents, black liquor, green liquor, white liquor, and aluminum sulfate.

In the event of small releases from material stored in the facility's ASTs, process chemicals, and new/used petroleum products would be typically directed into the process sewer system for neutralization and treatment. No known stormwater is discharged directly to the Androscoggin River.

# L. Dry Wells

No dry wells were observed or reported to be present on site.

# M. Pits, Ponds, Lagoons, and Pools of Liquid

No ponds or lagoons were observed at the subject property. A grease pit is used for maintenance in the Railroad Repair Shop. Oil staining was observed, but appeared to be contained within the concrete lining of the pit.

Pools of liquid were observed throughout the site buildings specifically under former pulp equipment and in basement areas, and are associated with the historic use of the site as a pulp mill. No evidence of a release was identified during the Haley & Aldrich site visit in areas where ponding of liquids were observed.

#### N. Odors

Petroleum odors were discerned in the central shop area and other maintenance facilities. Odors associated with pulp processing were present in the screen rooms and various Kraft Mill buildings. Other than those typically associated with the industrial processes conducted on the subject property, no other significant chemical odors were noted during the site inspection.



# O. Stains or Corrosion on Floors, Walls, or Ceilings

Staining and/or corrosion were observed in most former process locations on floors, walls, and equipment pads including mineral deposits, oily stains, and apparent liquor stains. As previously noted, floor drains and catch basins are directed to the off-site wastewater treatment plant.

### P. Stained Soil or Pavement

Stained pavement was observed within the paved containment berm for the 192,000 gallon CRU #6 fuel oil AST. The stains appear to be associated with overfill events which resulted in a release to the berm area. No "active" leaks were observed at the time of Haley & Aldrich inspection.

Stained soil was observed within the Railcar Repair building and several other locations throughout the subject property.

# Q. Stressed Vegetation

None of the vegetation observed on the subject property appeared to be stressed; although much of the subject facility area is gravel-covered or paved. Thus, vehicle traffic and erosion from paved areas have limited the vegetation growth in many areas of the site.

### R. Solid Waste and Evidence of Waste Filling

Solid waste (discarded machinery parts, and debris) was observed throughout the inactive facility. No evidence of a release was noted with regard to the debris. Facility personnel noted that demolition debris from former site structures was used throughout the site, Historic fill material reportedly also included ash from coal and wood burning.

# S. Wastewater and Stormwater Discharge

Process water and other liquids are collected in a system of floor drains and trenches and conveyed to the on-site wastewater treatment facility. Stormwater is collected in a system of drains and also conveyed to the on-site wastewater treatment facility.

# T. Monitoring, Water Supply, or Irrigation Wells

Groundwater monitoring wells are located on the subject property as result of a subsurface investigation completed by GZA in 2003.

One round of groundwater quality sampling was conducted by GZA with all monitoring wells sampled for VOCs (27 well locations), 12 wells sampled for PAHs, 14 wells sampled for RCRA-8 metals, and six (6) wells sampled for sulfate. Field water quality measurements made during groundwater sampling included pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and temperature.



Groundwater analytical results from 2003 indicate PAHs are the most widely distributed contaminant of concern in shallow site groundwater. The most significantly PAH-impacted groundwater was determined to be in the area of the Railroad Repair Shop, 500,000 gallon No. 6 Fuel Oil AST, and weak liquor storage area. Chlorinated VOCs were also detected in groundwater samples collected from an area just south of the Riverside Mill Building. Arsenic (As, at four locations) and lead (Pb, at one location) were also detected in site groundwater samples at concentrations greater than risk screening criteria.

No irrigation of water supply wells are reportedly present at the site.

# U. Sanitary Sewer and Septic Systems

Sanitary waste water reportedly is collected in the sanitary sewer system and conveyed to the City of Berlin's wastewater treatment facility.



### VII. LIMITED ASBESTOS SURVEY

During site reconnaissance activities from 11 September 2006 through 13 September 2006, a preliminary asbestos survey was conducted at the subject property by RPF Associates, Inc (RPF). A brief summary of the findings of the preliminary asbestos survey is provided below. Appendix F contains RPF's letter report of *Preliminary Survey Findings* for the Burgess Mill, Burgess, New Hampshire dated 14 September 2006 and materials and data obtained by RPF in support of the findings.

Based on existing survey results, preliminary visual observations made in September 2006, and asbestos test results for limited bulk material samples collected by RPF in September 2006, asbestos-containing building materials (ACBM) are present throughout the majority of the buildings and exterior mechanical systems at the site.

- Some of the ACBM at the site is documented in a 2001 report reviewed by RPF entitled "Burgess Pulp Mill Asbestos Locations & Amounts Document" (no author provided). However, confirmation of the locations and quantities of ACBM will be necessary prior to any demolition.
- Quantities of asbestos estimated in the "Burgess Pulp Mill Asbestos Locations & Amounts Document" may underestimate the actual amounts. This may apply to such areas as interior and exterior ACBM pipe insulation as well as thermal systems insulation (e.g., related to the Central Steam Plant and Recovery Boiler Unit #8)
- Demolition debris historically used as fill material at the subject property may contain ACBM. An example of this is the fill debris in the vicinity of the Rail Road Shop building. Previous testing in 2002 by RPF identified the presence of transite and insulation debris containing asbestos in the fill.
- Subsurface pipe systems are present at the subject property. The subsurface pipes may or may not be constructed with ACBM insulation (friable and non friable). A preliminary survey of subsurface piping on the subject property was not performed in September 2006 site asbestos survey activities.

The following table of the different types of suspect material observed by RPF during the survey that will require further review and testing

Type of Suspect Material	Example Locations
Refractory Brick and	Boiler Units in Central Steam Plant and Recovery
Packings	Boilers
Sealant and textured paints	Central Steam, Exterior Tanks, Roofs
Gasket	Throughout site mechanical and process equipment
Floor mastics	Throughout site office, bathroom, kitchen, and shop areas. Existing reports have limited test results for tiles but not for mastics and adhesives
Caulk, Glazing and Sealants	Window and Door Units, Other exterior sealants



Type of Suspect Material	Example Locations
Linoleum and ceramic	Throughout site in kitchen, locker room,
tile grouts	bathroom, and office areas
Gypsum and Plaster Wall	Riverside Mill, Admin Bldg, Industrial Relations,
or Ceiling materials	Offices, Mobile Units, Baled Pulp Storage
	Pulp Dryer Office, Machine Shop, Time Office,
Ceiling Tile	Admin Bldg, Industrial Relations, Various
	Bathrooms and Offices throughout site
Wall Cove Base and	Time Office
Adhesive	
Roofing	Through out Site
Insulation Wrap and	Tanks and various equipment throughout site
Sealants	



# VIII. FINDINGS AND CONCLUSIONS

Haley & Aldrich, Inc. (Haley & Aldrich) has performed a Phase I Environmental Site Assessment of the subject property in the City of Berlin, New Hampshire. The scope of work is described and conditioned by our proposal dated 5 September 2006. As indicated in our proposal, this Phase I was performed in conformance with the scope and limitations of the ASTM E 1527-00 Standard. Exceptions to, or deletions from, this practice are described in Section I of this report. Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the site, as defined in the ASTM E 1527-00 Standard and discussed in the Introduction section of this report.

The subject property described herein is defined as the Berlin or Burgess Mill property, but excludes the Cell Plant site (the former Chlor-Alkali Facility), the wastewater treatment plant, the service garage, and former portions of the mill site located on the west side of the Androscoggin River. The subject property occupies approximately 110 acres and is located in Berlin, New Hampshire. The property is currently owned by Fraser Paper, Inc. (Fraser) and was formerly used for manufacturing of wood pulp for use in paper processing. Pulping activities were discontinued in May 2006.

A comprehensive Phase I environmental site assessment was conducted for the property transfer to Fraser in May 2002. This document (Haley & Aldrich, Inc., 2002) served as a baseline for Recognized Environmental Conditions prior to May 2002.

It is our understanding that North American Dismantling Corporation (NADC) intends to acquire and raze all existing structures at the subject property.

# RECOGNIZED ENVIRONMENTAL CONDITIONS

The goal of the ASTM E 1527-00 Standard practice is to identify Recognized Environmental Conditions (RECs), as defined in the Standard and in Section I of this report.

This assessment has revealed evidence of four (4) recognized environmental conditions currently in connection with the property, which likely post-dated May 2002, as discussed below (Figure 3).

The ASTM E 1527-00 Standard requires an opinion of the potential impacts of REC(s) identified on a site during a Phase I. Our opinion is rendered with respect to a REC's potential (high, medium, or low) to require remedial response based on prevailing agency requirements and on our understanding of North American Dismantling Corporation's intended use for this property. Our opinion is limited by the conditions prevailing at the time our work was performed and by the applicable regulatory requirements in effect.

**REC** #1: Oil Staining Throughout Subject Property

**Potential Impact:** Low

**Explanation:** Numerous areas of oily stains were observed on interior concrete floor slabs during the site visit. The staining was predominantly observed in areas of machinery, aboveground storage tanks, and drums. Although the staining was observed on concrete, many of the concrete surfaces contained cracks, holes, and other breaches that could lead to subsurface soil and/or groundwater. Although many of the stained areas appear to pre-date May 2002, it is possible that some of these stained areas occurred during occupancy by Fraser.



**REC #2:** Solid Waste Dumping

**Potential Impact:** Low

**Explanation:** Several areas containing solid waste (scrap metal, used railroad ties, abandoned equipment and empty steel drums) were observed around the North Yard area. Although no obvious areas of impact (staining, stressed vegetation) were observed during the site visit, there is the potential that soil and/or groundwater has been impacted by this solid waste dumping.

**REC #3:** Floor Drain Systems **Potential Impact:** Medium

**Explanation:** According to the 2002 Haley & Aldrich ESA prepared for the subject property, floor drains located throughout the facility are constructed of non-coated concrete that were connected to the facility's wastewater treatment plant (WWTP) in 1976. These drains potentially received releases of oil and/or hazardous materials utilized in site buildings. Deterioration of the wastewater collection system was reportedly documented by a video survey of some or all of the collection system during a study commissioned by the former site operator. No failures of the collection system were reported by site contacts, but the results of the video survey were not readily available for review. No piping diagrams or inspection records were reviewed for this assessment. Although not observed, reported, or alleged, there is the potential that a degraded floor drain system could have acted as a conduit for the possible point source release of oil and hazardous materials (OHM) to soil or groundwater.

**REC #4:** Railroad Repair Shop

Potential Impact: High

Explanation: The railroad repair shop has a combination concrete floor slab and dirt floor. Hazardous materials and petroleum products used and stored in the building included hydraulic and lubricating oils, caustic liquid for equipment steam-cleaning and a self-contained ("Safety-Kleen") parts washer. The concrete portion of the repair building has a concrete lined repair pit with piping that appears similar to a fill port for an underground storage tank (UST). It is possible that a UST is located beneath the concrete floor that was formerly used to store waste oil from railcars being repaired. Staining was observed on the concrete floor of the repair building as well as in the pit. Several holes in the concrete floor were also observed. Further inspection of the one of the holes indicated that it extended approximately 4 feet below the surface of the repair garage and contained approximately 6 inches of a thick, oily substance. The surface soil on the unpaved portion of the repair building was also noted to be heavily stained with oil.

In 2003, under contract to the New Hampshire Department of Environmental Services (NHDES), GZA GeoEnvironmental, Inc. (GZA) performed a Phase II hydrogeologic investigation of the property. As part of this Phase II, GZA installed 5 soil borings on the exterior of the repair building, each of which was converted to a monitoring well. Soil and groundwater samples collected indicated concentrations of polyaromatic hydrocarbons (PAH) in soil and PAHs and arsenic in groundwater that exceeded State regulatory standards for soil and groundwater (NHS-1 and AGQS).

Haley & Aldrich also observed what appeared to be a UST fill port on the northwest corner of the repair building.



### **REC #5:**

Potential Impact: High

**Explanation:** Groundwater analytical results from 2003 obtained during a Phase II assessment of the subject property by GZA GeoEnvironmental, Inc. indicate PAHs are the most widely distributed contaminant of concern in shallow site groundwater. The most significantly PAH-impacted groundwater was determined to be in the areas of the Railroad Repair Shop, 500,000 gallon No. 6 Fuel Oil AST, and weak liquor storage area. Chlorinated VOCs were also detected in groundwater samples collected from an area just south of the Riverside Mill Building. Arsenic (As, at four locations) and lead (Pb, at one location) were also detected in site groundwater samples at concentrations greater than risk screening criteria. Although the identified groundwater contamination is likely indicative of historic releases, it is possible that Fraser's continued operation of the pulp mill from 2003 to 2006 has contributed to this groundwater contamination.

# HISTORICAL RECS AND KNOWN OR SUSPECT ENVIRONMENTAL CONDITIONS

The ASTM E 1527-00 Standard also requires that historical RECs (HRECs) and other known or suspect environmental conditions (KECs and SECs, respectively), as defined in the Standard and in Section I of this report, are identified in the Phase I. The standard defines HRECs as environmental conditions "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently." The term "known or suspect environmental condition" is not specifically defined in the standard, but is used by Haley & Aldrich to highlight environmentally-related information that is not anticipated to adversely affect the subject site and/or does not rise to the level of an REC. Haley & Aldrich identified nine HRECs in connection with the subject property (Figure 3).

HREC #1: Prior to installation of the process wastewater treatment plant in the 1970's, process waste throughout the subject property was reportedly discharged directly to the Androscoggin River. In the Riverside Mill Building, the floor drainage system was reportedly not connected to the WWTP system, and process liquid wastes were reportedly discharged directly to the ground or the Androscoggin River. There is the potential that soil and groundwater in the area of the Riverside Mill and sediment in the Androscoggin River have been impacted by these releases. Furthermore, review of preliminary analytical data provided by the NHDES indicates that the river has been a receptor for various constituents from the mill operations including, but not limited to, mercury, dioxin and PCBs. According to a Covenant Not to Sue (Covenant) among Fraser Paper, Inc., the State of New Hampshire, and the United States Environmental Protection Agency (USEPA), the State of New Hampshire and the USEPA have retained responsibility for all releases at the subject property that occurred prior to 30 May 2002. As a result, potential impacts to soil, groundwater, and/or river sediment as a result of the process wastewater discharges are not considered a concern to NADC.

**HREC** #2: Spill reports available at NHDES indicate that reportable spills at the site have occurred since 1974 including the following:

■ 11,000 gallons of No. 6 oil was released to railroad tracks area near the Engineering Building on 23 December 1986. Remediation was conducted by placement of sawdust. The oil and sawdust were then excavated and reportedly burned in the facility's boiler system.



- Between 600 and 1000 gallons of No. 6 oil was released in the center of the Mill Yard on 10 January 1987. Visually impacted soil was excavated and was reportedly burned in the facility's boiler system.
- 5,000 gallons of No. 6 oil was released to the Androscoggin River on 27 October 1993.
- 210 gallons No. 6 oil was released from an underground pipe on 22 October 2004 in the central portion of the subject property. The soil was reportedly excavated, mixed with wood chips and transported to Mt. Carberry landfill. The spill case was subsequently closed by NHDES.

As a result of the Covenant, potential impacts to soil, groundwater, and/or river sediment as a result of the 1986, 1987, and 1993 releases are not considered a concern to NADC. With regard to the 2004 release, the case was closed by the NHDES and as a result, does not represent a REC or HREC.

HREC #3: Review of a preliminary site map in the NHDES files indicated that PCB soil remediation had taken place in the center of the North Yard area. Documentation of cleanup results was available in a 27 October 1987 James River Corporation Interoffice communication from Dave Edelman to Ray Danforth, indicating that confirmatory samples containing concentrations of the PCB Aroclor 1260 were detected in soil at concentrations ranging from 0.4 to 2.2 parts per million (ppm). A soil sample collected in the vicinity in 1999 had a PCB concentration of 16.0 mg/kg (Tighe & Bond, 29 Nov. 1999). Although there is a potential that elevated levels of PCBs remain, this is not considered a concern to NADC as a result of the Covenant.

HREC #4: A 1996 report by Sevee & Maher Engineers, Inc. documented more than 200 potentially unpermitted discharge locations to the Androscoggin River. Many of these discharge points were reported as likely groundwater discharge points, however many of them were reportedly discharges from unknown sources. Discussions with Tammie Lavoie of Fraser indicated that each of these potentially unpermitted discharge locations was addressed either by closure, or determination that the discharge was originating from an off-site source. Given that the State of New Hampshire and the USEPA retained responsibility for river sediments under the Covenant, this is not considered a concern to NADC.

**HREC** #5: The main parking lot near No. 2 Bleachery Building reportedly is underlain by ash from historical coal-fired boilers. Since the placement of this fill occurred prior to Fraser's operation of the subject property, response action that may be required as a result of the ash would be the responsibility of the State of New Hampshire or the USEPA.

HREC #6: Nine UST tank closures were conducted in the 1990's. Closure documents indicate only minor impacts to soil and groundwater, with impacted soil being removed to Mt. Carberry Landfill. One gasoline UST removed in 1990 was apparently located in the Service Garage Area (formerly part of the subject property). During UST closure, impacted soil was removed, and in a letter to NHDES, James River Corporation requested assistance in determination of remedial measures, however additional documentation was not available. Multiple petroleum USTs are listed as having been closed in the 1980's by UST inventories provided by Fraser personnel. Records for these older closures were not available. Since closure of former USTs at the subject property occurred prior to May 2002, response action that may be required as a result of former USTs would be the responsibility of the State of New Hampshire or the USEPA.



**HREC** #7: Historical mill development included demolition of numerous buildings, including the Cell House, Floc Plant and Bermeco mill, over areas totaling several acres. It is reported that the majority of the demolition debris was backfilled into foundation holes. The nature of the demolition debris is unknown, but is reported to likely constitute solid waste and asbestos. Since these activities occurred prior to May 2002, response action that may be required as a result of these actions would be the responsibility of the State of New Hampshire or the USEPA.

**HREC** #8: The Cell House site (the former Chlor-Alkali Facility) is located to the north of the subject property and is characterized by elevated concentrations of lead, free-phase mercury, and detectable concentrations of volatile organic compounds (VOCs). Response actions being conducted at this Superfund site are the responsibility of the USEPA. The presence of mercury in the subsurface of this adjacent property could impact the site due to the possibility of groundwater, surface water, or free-phase migration onto the site. Discharge to the river was observed in the vicinity of a swale assumed to be the southwestern extent of the Cell House grout curtain. Given that the USEPA is responsible for response actions, the Cell House site is not considered a concern to NADC.

HREC #9: The Dummer Yard landfill and service garage are located adjacent and northeast of the subject property. Past disposal of materials in the landfill and former use of oil and hazardous materials at the service garage may have resulted in impacted to subsurface soil and/or groundwater at the subject property. Since both of these sites are located upgradient of the subject property and, as a result, present a potential concern for migration of contaminants onto the subject property. Portions of the subject property are expected to be included in the Groundwater Management Zone for the Dummer Yard Landfill. Given that NADC will not be acquiring the service garage, and the landfill is the responsibility of the State of New Hampshire and the USEPA, neither site is considered a concern to NADC. Portions of the subject property will likely become part of a regulated zone by others.

**HREC** #10: While observed reports indicate that remediation of PCB-impacted soil has occurred at the T-1 Transformer Area, PCB-impacted soil and groundwater contamination in bedrock and overburden are reported to be present. It is our understanding that the T-1 Transformer Area is currently being addressed by State of New Hampshire and, as a result, is not a concern to NADC.

# OTHER KEY FINDINGS

A limited asbestos survey was conducted as part of this work effort by RPF Associates, Inc. of Northwood, New Hampshire under contract to Haley & Aldrich. Based on existing survey results, preliminary visual observations made in September 2006, and asbestos test results for limited bulk material samples collected by RPF in September 2006, asbestos-containing building materials (ACBM) are present throughout the majority of the buildings and exterior mechanical systems at the site.

# **SUMMARY**

In summary, based on the results of this assessment, we have identified five (5) Recognized Environmental Conditions associated with the subject site. Two are considered low risk, one medium and two high.

The remainder of this report contains additional information regarding the Phase I assessment, the resulting findings, and limitations affecting this report.



### IX. CREDENTIALS

This report was prepared by Peter Galoski, David Montplaisir, Richard Van Etten, Sarah Brown, and Katherine North, under the direct supervision of James Griswold and Muriel Robinette, who served as the Project Manager and Officer-in-Charge of this project, respectively. Qualification information for the project personnel is provided below.

### Sarah Brown

Ms. Brown is an environmental engineer with experience in permitting, preparation of Phase I and Phase II reports, well installation and sampling, and Computer Aided Design (CAD).

#### Peter J. Galoski

Mr. Galoski serves as project manager of due diligence investigations and environmental site evaluations, primarily related to mergers/acquisitions and real estate transactions. He is responsible for development and execution of site-specific work scopes tailored to the needs of individual clients. In his 13 years of experience in the environmental consulting industry, he has managed and conducted numerous environmental due diligence evaluations of manufacturing facilities in all major industrial groups throughout the United States, Canada, Japan, and Brazil.

#### W. James Griswold

Mr. Griswold is a Project Manager and Senior Hydrogeologist with over 20 years experience in environmental consulting. Previous projects have included work on residential and commercial properties, landfills, and brownfields redevelopment. He has managed and worked on a broad range of projects, including industrial waste site investigation and remediation, Phase I and Phase II site investigations and remediation.

# David T. Montplaisir

Mr. Montplaisir serves as Sr. Environmental Geologist for due diligence, Massachusetts Contingency Plan site investigations, and remediation projects. In his 14 years of experience in the environmental consulting industry, he has managed and conducted over 500 environmental due diligence evaluations of manufacturing facilities in all major industrial groups throughout North America and Asia. Mr. Montplaisir's experience also includes two years working in the United Kingdom on similar projects throughout Europe and North Africa.

### Katharine P. North

Ms. North received a Bachelor of Arts degree in Geology from Middlebury College in 2005. As an Environmental Geologist in the Real Estate Group, Ms. North is involved in a variety of projects including environmental site assessments. Her responsibilities include Phase I Environmental Site Assessments, site history research, interaction with clients and state regulatory agencies, and interpretation and evaluation of environmental conditions.



# Muriel S. Robinette

Ms. Robinette, during her 25 years in Environmental Consulting, has performed, scoped, and managed more than 300 environmental site assessments at industrial, residential and retail properties throughout the United States. She has degrees in geology and engineering, and served as an expert witness on many cases in regard to site conditions, property contamination and remediation.

### Richard Van Etten

Mr. Van Etten has a research background in analytical chemistry and brings more than 12 years of experience in environmental investigation, chemical risk characterization, remedial planning, permitting, and implementation at industrial facilities, petroleum storage facilities, hazardous waste sites, and landfills.



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- 5. FEMA Flood Insurance Rate Map, dated 15 June 1982.
- 6. Phase II Hydrogeologic Investigation, Burgess Pulp Mill and Cascade Paper Mill, Berlin and Gorham, New Hampshire, prepared by GZA GeoEnvironmental, Inc., dated December 2003.
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